

BUTTERFLIES OF NEW JERSEY

A LIST OF THE LEPIDOPTERA SUBORDER RHOPALOCERA OCCURRING IN
THE STATE OF NEW JERSEY; GIVING TIME OF FLIGHT, FOOD
PLANTS, RECORDS OF CAPTURE WITH LOCALITY AND DATE

BY WILLIAM PHILLIPS COMSTOCK

INTRODUCTION

The butterflies appeal to a great many collectors, though they probably represent only about one per cent of the listed insects of the state of New Jersey. Their numbers, as related to other insects occurring in the state, may be judged from the few pages devoted to them in the "Annual Report of the New Jersey State Museum for 1909" containing the Report of the Insects of New Jersey prepared by the late Professor John B. Smith. Here the butterflies were quite adequately covered but the list is out of print and at present copies are difficult to obtain.

The present list adds few to those known to occur thirty years ago as butterflies are mostly obvious creatures and future additions to the state list will probably occur more as strays than as permanent residents. The reason for this list is to record additional facts about some of the species, as to their way of life, and occurrence both for dates and new localities.

There are recorded in this New Jersey list 132 species and 39 sub-specifically named. In the list for New York State there are 130 species and 27 sub-specifically named. For Connecticut there are listed 87 species and 11 sub-specifically named. In a list of the butterflies of the District of Columbia there are 90 species and 13 sub-specifically named. A recent list for the state of Virginia gives 133 species and subspecies.¹

¹ "A List of the Insects of New York," Mortimer Demorest Leonard, editor-in-chief. Cornell University Agricultural Experiment Station, Memoir 101, 1926.

"Check List of the Insects of Connecticut," by W. E. Britton, Ph.D. State of Connecticut State Geological and Natural History Survey, Bulletin No. 31, 1920.

"The Butterflies of the District of Columbia and Vicinity," by Austin H.

In Smith's "List," as it is familiarly known, there are a number of localities mentioned which no longer exist as good collecting areas. Notable among these are localities in northern New Jersey, the Orange Mountain area, Paterson and Garrett Rock and Snake Hill. The old, easily accessible, collecting spots about the lower end of Greenwood Lake, Hewitt and Lake Hopatecong are much impaired. The Jamestown area of pine barren territory and marsh has also been injured. The same is true of the once wonderfully rich collecting area of Five-Mile Beach. These localities were formerly extensively collected in and many of the less common species recorded from them thirty or more years ago are now scarce or absent. Nevertheless in the absence of other records it has been necessary to make use of many records from these places in this list. The dates are reliable and useful as guides for search in other localities of similar nature, which have not suffered so much from despoilation.

The arrangement of the species occurring in New Jersey follows that of several much used text-books upon the butterflies and diverges but little from the arrangement used by Dr. Smith. The numbers given are those of McDunnough's list.² For the identification of species there are so many excellently illustrated books, notably "The Butterfly Book" by W. J. Holland, revised edition 1931, that keys or descriptions seem unnecessary.

For convenience and brevity a system of presentation is adopted in the statements concerning each species. The items to be covered after the family designation are ordered as follows: Genus—Species—Important synonym or marked change from Smith's "List"—American popular name—General locality—

Clark. Smithsonian Institution, United States National Museum, Bulletin No. 157.

"Preliminary List of the Butterflies of Virginia," by Austin H. Clark and Leila F. Clark. Proceedings of the Biological Society of Washington. Vol. 50, pp. 87-91, June 22, 1937.

² "Check List of the Lepidoptera of Canada and the United States of America," by J. McDunnough, Ph.D. 1938.

In the Hesperiidæ the arrangement is that of "The Hesperioidea of North America," by A. W. Lindsey, E. L. Bell and R. C. Williams, Jr. Denison University Bulletin, Journal of the Scientific Laboratories, Vol. XXVI, April 1931.

Specific synonymy is corrected where essential.

Characteristic environment—Usual time of year when adults are most numerous—Number of annual broods—Winters as; egg, larva, pupa, imago—Peculiarities of habit and remarks—Food plants—Recorded dates; earliest to latest—Selected records; locality, date, collector—Subspecifically named forms.

It is not always necessary or possible to give information on each item as outlined but each listing of a species follows this general form and if items are omitted the succession of items remains the same.

In many cases species are very local, confined to very small areas where their particular food plant grows. The larvae of some apparently feed upon only one kind of plant. Thus a species may be spread over a considerable region but will be found only in scattered small areas.

Eggs may be laid on the top of the leaf, underneath, singly and in groups and masses. Some *Lycaenidæ* lay eggs in flower-heads. The larvæ have varied feeding habits. Some are nocturnal feeders, some myrmecophilous, one carnivorous. Some larvæ feed openly; some hide by day in various ways, as in cover about base of the plant, in ants' nests about the lower stem, or in a protection of leaves spun together. Pupæ are generally concealed in various ways and are difficult to find. Mostly they are of a shape and color that makes them inconspicuous. Imagoes feeding generally on the nectar of flowers and other juices are mostly fond of the bright sun and go to cover quickly at the slightest clouding over.

The distribution of species in the state is often closely associated with physiography and vegetation. Dr. Smith accompanied his report with an excellent map and text defining the faunal regions. A later and more detailed discussion by Dr. Fox³ elaborates this.

The state is divided into two portions,—the Northern District and the Coastal Plain,—by the Fall Line which extends across

³ State of New Jersey Department of Agriculture, Bureau of Statistics and Inspection, Circular No. 138. "A Revised Annotated List of the Dermaptera and Orthoptera of New Jersey," by Henry Fox, 1928.

the state from Trenton to New Brunswick and thence to Jersey City. The term Fall Line refers to the line where the hard rocks of the northern part of the state meet and pass under the loose deposits of the southern half.

The Northern District has subdivisions of physiographic character which, extending north from the Fall Line, are the Piedmont Region, the Crystalline Highlands, the Appalachian Valley and the Kittatinny Range.

The Coastal Plain is subdivided, extending south from the Fall Line, into the Middle District (inclusive of the Delaware Valley), the Pine Barrens, the Coastal District (including the Coastal Strip, Salt Marshes and Barrier Beaches) and the Cape May Peninsula. These divisions of the Coastal Plain are based on the nature of the soils and are vegetational. These terms are used for defining the general distribution of species.

Information about the few butterflies which are of economic importance is given in the paragraphs on those species. A list of collectors' names is given with corresponding abbreviations which are used for reference in the text. In recording the plenitude of individuals of a species and date range the statements are for average conditions. There are years of scarcity and abundance; locally favorable conditions may at times produce large broods; again, normally common species may some years appear to be entirely absent. For the names of food plants Gray's "New Manual of Botany" (seventh edition) is followed.

I have searched thoroughly the pertinent entomological literature for records of New Jersey captures. I have also used the data given in Smith's "List" of 1909 as required. I am particularly indebted to Mr. Frank E. Watson for many records and facts and also criticism of the manuscript as a whole. Dr. William T. M. Forbes has given good advice and added information. Others who have aided by contributing records and suggestions are Mr. Ernest L. Bell, Mr. Otto Buchholz, Mr. Austin H. Clark, Mr. Cyril F. dos Passos, Dr. Willis J. Gertsch, Mr. Sidney A. Hessel, Mr. Charles Rummel and Mr. H. E. Wilford. Other collectors' records which are cited have been taken from published statements.

LIST OF COLLECTORS*

(Aa.) Eugene M. Aaron.	(Hy.) F. Hoyer.
(An.) Elmer Anthony.	(Jn.) Charles W. Johnson.
(Ang.) John B. Angleman.	(F.Jn.) Frank Johnson.
(Bar.) Roy Barnett.	(Kl.) Alexander B. Klots.
(Bl.) E. L. Bell.	(Kp.) Stanley T. Kemp.
(Br.) H. H. Brehme.	(Kr.) Wm. D. Kearfoot.
(Bt.) Wm. Beutenmuller.	(La.) Roy Latham.
(Bu.) Edward J. Burns.	(Lt.) Philip Laurent.
(By.) Ernest Baylis.	(Lz.) Frank E. Lutz.
(Bz.) Otto Buchholz.	(Mt.) Harvey Mitchell.
(C.) Wm. P. Comstock.	(N.) Alan S. Nicolay.
(Ca.) J. & J. Cahalan.	(New.) Lloyd Newsom.
(Cy.) John P. R. Carney.	(Pm.) Charles Palm.
(Dke.) V. A. E. Daeke.	(Pk.) A. S. Pinkus.
(Dn.) E. L. Dickerson.	(Ort.) A. E. Ortmann.
(Doll.) Jacob Doll.	(My.) Otto Mayer.
(Dow.) Robert P. Dow.	(Ru.) Charles Rummel.
(dP.) Cyril F. dos Passos.	(Sb.) Simon Seib.
(Ds.) Wm. T. Davis.	(Se.) Otto Seifert.
(Eng.) George P. Engelhardt.	(Sh.) Ernest Shoemaker.
(Fr.) George Franck.	(Sk.) Henry Skinner.
(Frd.) W. G. Freedley, Jr.	(Sm.) John B. Smith.
(Fox.) Wm. J. Fox.	(St.) Witmer Stone.
(Ge.) Willis J. Gertsch.	(Sto.) Robert W. Storer.
(Gr.) John A. Grossbeck.	(Su.) C. H. Sunderland.
(Hg.) Herman Hornig.	(W.) Henry W. Wenzel.
(Hl.) Gaylord C. Hall.	(Wat.) Frank E. Watson.
(Hm.) Frank Haimbach.	(Wt.) Wright.
(Ho.) W. J. Holland.	(Ws.) Henry Wormsbacher.
(Hs.) Sidney A. Hessel.	(Wi.) Harry B. Weiss.
	(Wf.) H. E. Wilford.

DANAIDÆ

Danaus Kluk

89. **plexippus** Linnaeus. Monarch, milkweed butterfly. Throughout state. Open country, meadows. April–November. Three broods (Wi–Dn). Migrant to south in late fall, does not overwinter in state, females return in spring to start first local brood. Records of males returning in spring also.

* Where (Sm) follows another reference it means that the reference occurs in Smith's "List." Occasionally these references are corrected to agree with the original references.

Eggs laid singly, usually on under surface of leaves. Reported as swarming in Florida Everglades in winter, both males and females. Larvæ, Tampa, Fla., March 1-21 (Bl). Milkweeds (*Asclepias*).

Lakehurst, April 25, (Ds)—Newark, Oct. 7, (C).

Recorded throughout state every month from spring to fall. Aberration *fumosus* Hulst, several captures.

NYMPHALIDÆ

Dione Hübner

158. *vanillae* Linnaeus. Gulf fritillary. Occasional visitor. Passion flower leaves (*Passiflora*).

Cape May; 7-Mile Beach; Camden Co. (Hm) (Sm).

Euptoieta Doubleday

159. *Claudia* Cramer. Variegated fritillary. Coastal Plain. Moist open fields. June-October. Three broods. Eggs laid singly. Occasionally locally common. Passion flower leaves, violets, pansy (Eng), orpine (*Sedum*) rarely (Wat).

Engelwood, July 6, (C)—South Amboy, Oct. 4, (C).

Cape May, June-Oct., (Hm); Barnegat Pier, Aug. 7-Sept. 30, (Br); Runyon, Sept. 5, (C); Lakehurst, July 14, (C); Arlington meadows, July 15, Aug. 20, (Ru); Woodridge, Sept. 10, (Mt); Hillside, Sept. 15, 20, (Ru).

Argynnis Fabricius

161. *idalia* Drury. Regal fritillary. Throughout state. Open country, moist meadows. Late June-September. One brood. Larva a night feeder, hiding by day. Winters as first stage larva. Eggs laid singly. The brood is long extended fresh examples appearing from late June to middle of August. Violets.

Mashipacong, June 29, (C)—Fairton, Sept. 16, (Br).

Jamesburg, June 30, July 1, Aug. 25, Sept. 3, (C, Wat); Newton, July 5, 23, (C, Wat); Englewood, July 13, (C); Ramsey, July 21, (Ge), 28, (C); Old Bridge, Aug. 4, (Wat); Waterloo, Aug. 16, (C).

Aberration *ashtaroth* Fisher. Schooley's Mountain (Ang) (Sm).

166. **cybele** Fabricius. Silver spot. Throughout state. Abundant in southern area. Low open country. June–September. One brood. Larva nocturnal feeder. Winters as first stage larva. Eggs laid singly. Violets.

Greenwood Lake Glens, June 22, (Wat)—Bowne, Sept. 16, (C).

Newton, July 5, 6, 10, 23, common (C, Wat); Jamesburg, July 1, 4, Sept. 3, (C, Wat); Ramsey, July 28, (C); Old Bridge, Aug. 4, (Wat); Atlantic Highlands, Aug. 8, (Wat); Waterloo, Aug. 5, 16, (C).

167. **aphrodite** Fabricius. Northern District. Open country and meadows. July–August. One brood. Larva nocturnal feeder. Winters as first stage larva. Eggs laid singly. Violets.

Greenwood Lake Glens, June 25, (Wat)—Bowne, Sept. 12, (C).

Mashipacong, June 28, (C); Jamesburg, July 4, (C); Newton, July 6, 23, (C, Wat); Englewood, July 13, (C); Waterloo, Aug. 5, (C); Fort Lee, Aug. 25, (C).

Brenthis Hübner

200. **myrina** Cramer. Little silver spot. Throughout state. Moist fields and meadows. May–September. Two broods. Winters as partly grown larva. Nocturnal feeder. Eggs laid singly on stem or leaf. Violets.

Jamesburg, May 24, (C)—Carlstadt, Sept. 23, (C).

Jamesburg, May 30, June 3, 15, 20, Aug. 25, Sept. 3, (C, Wat); Newton, July 23, (C, Wat); Ramsey, July 12, (Ge), July 28, (C); Old Bridge, Aug. 28, (Wat); Dennisville, Sept. 5, (C, Wat); Point Pleasant, Sept. 17, (C, Wat).

212. **bellona** Fabricius. Meadow fritillary. Throughout state. Moist fields and meadows. June–September. Two broods. The species is long lived and broods drawn out. Winters as larvae in various stages of growth. Nocturnal feeder. Violets.

Great Notch, May 2, 10, (Ru); Greenwood Lake Glens, May 30, (C); Cranford, July 10, (Ru); Ramsey, July 12, (Ge); Bowne, Sept. 12, (C); Andover, Sept. 16, (C).

Euphydryas Scudder

217. **phaëton** Drury. Baltimore. Throughout state. Swampy meadows. June–July. One brood. Sometimes locally numerous. Gregarious as small larvae, wintering in web, scattering in spring. Eggs laid in large clusters underneath leaf on turtlehead (*Chelone glabra*). In spring when larvæ scatter they feed more generally. On young ash shoots (Wat). Figworts (*Scrophulariaceæ*).

Greenwood Lake Glens, May 31, (C)—Ramsey, July 28, (C).

Greenwood Lake Glens, June 16, 22, 25, (C, Wat); Arlington, June 5, (Ru); Ramsey, June 9, (Ge); Hemlock Falls, June 28, July 2, (C); Cape May Court House, July 16, (Hl, Wat); Newton, July 23, larvæ, (C, Wat).

This species varies greatly from suffusion to absence of spots leading to a number of named aberrations: **superba** Strecker and **phaethusa** Hulst have been taken in the state.

Melitaea Fabricius

256. **harrisii** Scudder. Harris' checker spot. Locally, Northern District. Moist meadows. June. One brood. Winters as young larva. Eggs laid in patches underneath leaf. Larvæ gregarious. *Doellingeria umbellata*.

Ramsey, June 9, (Ge)—Stanhope, June 12, (Ru); Mashipacong, July 5, (Hl, Wat); Greenwood Lake Glens, June 22, 25, (C, Wat).

Phyciodes Hübner

263. **nycteis** Doubleday & Hewitson. Silver crescent. Locally, Northern District. Open grassy fields. June–July. One brood. Winters as partly grown larvæ. Eggs laid in clusters up to 100 underneath leaf. Sunflowers, especially *Helianthus divaricatus*, occasionally aster (Wat).

Millburn, June 15, (Ru)—Sloatsburg, N. Y., July 11, (C).

Greenwood Lake Glens, June 16, 22, 25, 27 (C, Wat); Lake Lackawanna, June 20, 30 (Ru).

Aberration **milburni** Rummel. Type locality Millburn, June 20, (Ru).

265. **tharos** Drury. Pearl crescent. Throughout state. May–October. Three broods. Winters as partly grown larvæ, gregarious, irregular development due to lethargy makes great variation in time of emergence of adult. Various asters.

Staten Island, N. Y., Mar. 29, (Ds)—Mountain View, Oct. 5, (C).

Regularly on the wing from early May to middle October and our most common butterfly. Form **marcia** Edwards is the spring brood. Aberration **packardii** Saunders. Several records.

Polygonia Hübner

285. **interrogationis** Fabricius. Semicolon. Throughout state. Borders of woodland and scrub. March–November. Two broods. Winters as imago, hibernating in hollow trees or other cover. Abundant, fond of feeding on fallen fruit in orchards. Eggs laid singly or in chains on under surface of leaves; larvæ partly gregarious. Elm, hop, hackberry.

Hemlock Falls, June 23, (C)—Newark, Sept. 22, (C).

Frequent from the middle of June through September. Form **umbrosa** Lintner is the summer brood.

286. **comma** Harris. Hop-merchant. Throughout state. Borders of woodland and open woods. March–November. Two broods. Winters as imago. Sometimes locally abundant. Eggs laid on under surface of leaf or stem. Larva forms a nest. Nettle, hop, elm.

Old Bridge, April 26, (C)—Fort Lee, Oct. 21, (C).

Greenwood Lake Glens, June 22, (Wat); Newton, July 23, (C, Wat); Caldwell, Aug. 20, (C). Form **dryas** Edwards is the summer brood.

288. **faunus** Edwards. Green comma. Kittatinny Range. Open woodland. March–November. One brood. Winters as imago. Very scarce in state, more common northward. Eggs laid singly on top of leaf. Birch, willow, currant, gooseberry.

Mashipaeong Pond, July 6, (E. R. Watson in Coll. Wat);

Lake Lackawanna, Sept. 6, (Ru); Schooley Mountain (Aa) (Sm).

294. **progne** Cramer. Gray comma. Northern District. Open woodland. March–November. Two broods. Winters as imago. Not common. Eggs laid singly in notches at edge of leaf. Currant, gooseberry.

Hemlock Falls, April 20, (Wat)—Hamburg, Oct. 2, (C).

Camden, April 24, (Cy) (Sm); Irvington, June 11, 14, (Bz); Greenwood Lake Glens, July 18, (C); Stanhope, July 23, (Ru); Lake Lackawanna, July 12, Aug. 13, (Ru), Aug. 19, (Bz); Andover, Aug. 30, (C).

Form **1-argenteum** Scudder is the summer brood. Greenwood Lake Glens, July 1, 2, (Wat).

Nymphalis Kluk

295. **j-album** Boisduval & LeConte. Large tortoise-shell. Throughout state locally. Open woods and wood roads. March–November. One brood. Winters as imago. Occasionally locally common. Gregarious larvæ. Gray birch (*Betula populifolia*) (Wat).

Hemlock Falls, April 6, (C)—Barnegat Pier, Sept. 30, (Br).

Alpine, June 10, larvæ abundant, (Wat); Newton, July 6, 10, (C); Ramsey, July 7, (Ge); Green Village, July 7, (Ru); Barnegat City, Aug. 16, (Br) (Sm); Great Notch, Sept. 5, (Ru); Newark, Sept. 12, (C); Lakehurst, Sept. 17, (Ds) (Sm).

297. **milberti** Godart. Small tortoise-shell. Northern District. Open fields and meadows. June–October. Three broods. Winters as pupa and imago. Eggs in masses, sometimes laid beneath leaf, larvæ gregarious. Usually scarce but some seasons locally very numerous. Nettles (*Urtica gracillis* and *dioica*).

Hillside, July 10, (Ru)—Camden, Nov. 6, (Cy) (Sm). Paterson, July 20, Aug. 13, (Gr) (Sm); Swartswood Lake, July 25, (Ds) (Sm); Hemlock Falls, Aug. 17, (Wat); Hamburg, Oct. 2, (C); Harrison, Oct. 24, (C).

298. **antiopa** Linnaeus. Mourning cloak. Throughout state. Open woods, wood roads and edges of wet meadows. March–November. Two broods. Winters as imago. Eggs laid usually in a single layer encircling a twig; gregarious larvæ, often making a large colony, defoliate food plant. Control by arsenical sprays. Elm, willow, poplar, hackberry.

Hemlock Falls, Mar. 23, (C)—Newark, Oct. 23, (C). On wing almost everywhere throughout season.

Aberration **hygiaea** Heydenreich. Synonym *lintnerii* Fitch. Occurs in various gradations but is very scarce.

Vanessa Fabricius

299. **atalanta** Linnaeus. Red admiral. Throughout state. On flowers of field and roadside. April–November. Two broods. Winters as imago. Often abundant in fall. Somewhat migratory. Eggs laid singly on upper surface of leaf. Larva lives in a nest. Nettle, false nettle (*Boehmeria cylindrica*).

Old Bridge, April 26, (C)—Mountain View, Oct. 5, (C).

On the wing throughout season, but perhaps most common in September.

300. **virginiensis** Drury. Synonym *huntera* Fabricius. Painted beauty. Throughout state. On flowers of field and garden. April–November. Two broods. Winters as pupa and imago. Egg laid singly on top of leaf. Larva forms a nest. Everlastings (*Antennaria*).

Jamesburg, May 17–Oct. 10, (C).

Throughout season, but more common, July through September.

301. **cardui** Linnaeus. Painted lady. Throughout state. On flowers of field and roadside and in waste places. April–November. Two broods. Winters as imago. In some years it appears in considerable numbers and again seems entirely absent. A migratory species with a speed of flight 20 to 25 miles an hour. Egg laid singly on top of leaf. Larva makes a nest. Thistle, burdock, hollyhock.

Newton, July 23, (C, Wat)—New Brunswick, Sept. 23, (Wat). There are earlier and later records for New England states (Seudder).

Junonia Hübner

303. *cœnia* Hübner. Buck-eye. Abundant south of Fall Line, more sparingly in Northern District. On flowers of field and roadside. May–November. Two broods. Winters as imago probably as it does further south. Often common in Coastal District in late summer. Eggs laid singly on tips and underneath leaves. *Gerardia*, snapdragon.

Lakehurst, June 29, (C)—Hillside, Oct. 17, (Ru).

Arlington, Aug. 5, Sept. 5, (Ru); Milltown, Aug. 23, (C); Dennisville, Sept. 5, (C, Wat); Point Pleasant, Sept. 17, (C, Wat); South Amboy, Oct. 4, (C).

Basilarchia Scudder

322. *astyanax* Fabricius. Synonym *ursula* Godart. Blue vice-roy. Throughout state. Borders of woodland and roadside. May–September. Two broods. Winters as small larva in hibernaculum formed from tip of leaf. Imagoes often numerous on fallen fruit in orchards. Wild cherry, apple, thorn, plum, poplar and willow.

Jamesburg, May 30, (C)—Carlstadt, Sept. 18, (C).

More numerous in July and August but on the wing through five months.

Form *albofasciata* Newcomb flies with *astyanax* but is scarce. Intergrades occur. Mr. Hall records 8 specimens from Highpoint, 4 in one day.

Mashipacong, June 28, (C); Ogdensburg, July 10, (Bl); Elizabeth, July 17, (Bz); East Brunswick, July 29, (Dow); Waterloo, Aug. 5, (C); Great Notch, Aug. 16, (Ru); Stillwater, Aug. 5, (F. Treuting); Stanhope, Aug. 15, (Mrs. F. G. Ruggles).

325. *archippus* Cramer. Viceroy. Throughout state. Borders of woods, roadsides and meadows. June–October. Two broods. Winters as small larva in hibernaculum. Eggs laid singly. Willow and poplar.

Jamesburg, June 15, (C)—Mountain View, Oct. 5, (C).

Jamesburg, June 20, July 4, Aug. 25, (C); Newton, July 6, 23, larvæ, (C, Wat); Ramsey, July 28, (C); Old Bridge, Aug. 4, (Wat); Dennisville, Sept. 6, (C, Wat); Carlstadt, Sept. 18, (C).

Aberration *lanthanis* Cook & Watson flies with *archippus*

but is scarce. Intergrades occur. *Athenia*, Aug. 13, (Wat); *Elizabeth*, Aug. 14, (Bz); *Arlington*, Aug. 20, (Ru).

Asterocampa Röber

327. *celtis* Boisduval & LeConte. Locally, Northern District. Open woods. June–September. Two broods. Winters as larva and perhaps imago (Edwards). Imago rests on leaves and tree-trunks in woods. Eggs laid singly or in small clusters on under side of leaf. Hackberry (*Celtis*).

Newton, July 10, '36, (C), larvæ, July, (dP, Wat); Lake Lackawanna, June 12, 28, July 5, (Ru); Great Notch, June 13, '37, (Bz); Burlington (By); New Brunswick (Bar); South Orange, July, larvæ (Pk); Swartswood Lake, Sept. 4, '37, (N); Lawrence Harbor, Aug. 20, fairly common (W. C. Frey).

329. *clyton* Boisduval & LeConte. Emperor. Locally, Northern District. Open woods. June–July. One brood. Winters as small larva. Eggs laid in masses, sometimes 500, on underside of leaf. Larvæ gregarious for three stages, then after hibernating, scattering. Imago with habits like preceding species but more frequently seen. Hackberry (*Celtis*).

Hemlock Falls, June 28–July 14, (C, Wat); Arlington, July 5, 15, 20, (Ru); Newton, July 6, 10, (C, Wat), larvæ, July, (dP, Wat).

Form *proserpina* Scudder flies with the typical form.

SATYRIDÆ

Enodia Hübner

96. *portlandia portlandia* Fabricius. Locally, throughout state. Wood paths and open spots in woods. July–August. One brood. Winters as larva. Grasses.

Newton, July 11, (C); Palisades, July 20, (Eng).

portlandia anthedon Clark. This seems to be the subspecies most frequently taken in the state.

Mountain Side, June 26, (Bz); Hemlock Falls, July 5, (Wat); Lake Hopateong, July 5, Bear Swamp near Ramsey, July 10, Green Village, July 8, (Bz); Millburn, July 8, 10, (Ru); Ogdensburg, Aug. 10, (Bl).

Note. The following records show distribution in the state without definite record of the form. Ramsey, July 23, (Ge); Livingston, July 26, 28, (Hs); Newfoundland, July 27, (Ds) (Sm); Paterson, July 16, Aug. 17, (Gr) (Sm); 5-Mile Beach, (Hm) (Sm).

Neonympha Hübner

100. *areolatus septentrionalis* Davis. As *phocion* Fabricius (Sm). Pine Barrens and Coastal District. Swamps with coarse grass. June–July. One brood. Winters as larva (Wat). Grasses.

Jones Mills, June 21, (St) (Sm); Lakehurst, June 28, (Wat), July 7, 11, 19, (Hs), type locality, July, (Ds); Richland, July 17, (Hl, Wat); Brown's Mills Jc., July 12, (Dke) (Sm); Da Costa, July 17, (Lt) (Sm); Toms River, July 27, (Dke) (Sm); Atlantic City, July, (Aa); Deal, July 9, (Ca).

Megisto Hübner

103. *eurytus* Fabricius. Throughout state. Open woodland. May–July. One brood. Winters as larva. Eggs laid singly. Grasses.

Bowne, May 28, (C)—Ramsey, July 28, (C).

Common generally through June and July.

Satyroides Scudder

106. *eurydice* Johann. Synonym *canthus* Linnaeus. Throughout state. Locally common in grassy bogs. June–August. One brood. Winters as nearly grown larva and possibly pupa. Eggs laid singly. Coarse swamp grasses and sedges (*Scirpus* and *Carex*).

Jamesburg, June 30, (C)—Runyon, Sept. 4, (C).

Newton, July 7, 11, (C); Ramsey, July 28, (C); Livingston, July 26, 28, (Hs); 5-Mile Beach, June (Hm).

Minois Hübner

117. *alope* Fabricius. Blue-eyed satyr. Throughout state. Open woods and brush. July–September. One brood.

Winters as larva on emerging from egg. Eggs laid singly. Grasses.

Newton, July 6, (C)—Carlstadt, Sept. 18, (C).

Green Village, July 15, (Ru); Waterloo, Aug. 16, (C); Woodridge, Sept. 10, (Mt).

Form *maritima* Edwards is more frequent below the Fall Line. Jamesburg, July 5, (C); South Lakewood, July 13, (Wat); 5-Mile Beach, July–Sept., common (Hm).

Form *nephele* Kirby occurs in the northwestern part of state. Newton, July 5, 7, (C); Mashipacong, July (Hl).

LIBYTHEIDÆ

Libythea Fabricius

336. *bachmannii* Kirtland. Snout butterfly. Locally, throughout state. June–September. Three broods. Winters as imago. Hackberry (*Celtis*).

Avalon, July 4, (Kp); Camden, July 9, (Cy); Fort Lee, July 11, (Ws); Greenwood Lake Glens, July 18, (C); Snake Hill, July 20, (Wat); Lakehurst, July 21, (Ds) (Sm); Atlantic Highlands, July 26, (C, Wat); Arlington, Aug. 13, (Ru); Morgan, larvæ (Wat).

RIODINIDÆ

Calephelis Grote & Robinson

346. *borealis* Grote & Robinson. Northern metal-mark. On limestone outcrops, Appalachian Valley and Kittatinny Range. Thickets and fairly thick woods. July. One brood. Winters as larva. The butterfly rests with wings open on a sun-lit leaf or a flower in small open spots in shady woods. Round leaf squaw weed (*Senecio obovatus*).

Newton, July 5–18, (Gr, Wt, dP, Wat, C); Delaware Water Gap, (Aa) (Sm).

LYCENIDÆ

Strymon Hübner

372. *m-album* Boisduval & LeConte. Occasional visitor, southern species. Oak.

Orange Mountains, April 28, (Br) (Sm); Atlantic City,

- June 11, (Aa) (Sm); Jamesburg, June 21, (Wat); Lake Hopateong, July 5, (Fr) (Sm).
373. **melinus** Hübner. Throughout state. Open woods and fields on flowers. May–October. Three broods. Winters as pupa. Eggs laid singly in flower heads. Flower and fruit feeder. Bush clover (*Lespedeza hirta*), other legumes. Pompton, April 24, (C, dP)—South Amboy, Oct. 4, (C). Jamesburg, May 8, (C); Camden, June 17, Sept. 17, (Cy) (Sm); Ramsey, July 16, (Ge); Manasquan, July 24, (C); Paterson, Aug. 3–17, (Gr) (Sm); Fort Lee, Aug. 23, (C); Dennisville, Sept. 7, (C, Wat).
380. **titus** Fabricius. Locally, throughout state. July–August. One brood. Winters as egg. Egg laid singly on twig (Seudder). Larva on wild cherry, by day about roots of small plants, myrmecophilous, night feeder (Wat). Pupae on wild cherry rootstalk below surface of ground, June 20, (C). Imago on flowers in bright sun. Sometimes common. Jamesburg, June 24, (C)—Old Bridge, Aug. 4, common (Wat). Ramsey, July 3, (Ge); Jamesburg, July 4, (Wat); Englewood, July 6, (C); Westwood, July 8–29, (Mt) (Sm); Dover, July 16, (Jn) (Sm); Paterson, July 17, (Gr) (Sm).
381. **acadica souhegan** Whitney. Crystalline Highlands, Appalachian Valley. June–July. One brood. Winters possibly as egg. Larva by day on leaves and stems of small plants of willow (*Salix discolor*), myrmecophilous (Wat). Imago on flowers, locally common some seasons. Ledgewood, June 29, (dP)—Ramsey, July 17, (Ge). Great Meadows, June 30, (dP); Hewitt, July 1, (C, Wat); Dover, July 5, (dP); Newton, July 6, (C); South Ogdensburg, July 7, (dP); Newfoundland May–June, larvæ (Wat).
385. **edwardsii** Grote & Robinson. Northern District. June–July. One brood. Winters as egg. Larvæ in ants' nests at roots of scrub, scarlet oak, late May (Wat). Imago on flowers. Greenwood Lake Glens, June 21, 28, (C); Newfoundland, July 3, (Ds) (Sm); Newark, July 4, (Br) (Sm); Newton, July 6, (C); Hewitt, May, larvæ (Wat).

387. **falacer** Godart. *calanus* Auct. Throughout state. June–August. One brood. Winters as egg. Larvæ feed on leaves of oak, hickory and butternut.

Paterson, June 24, (Gr) (Sm)—Camden, Aug. 1, (Cy) (Sm).

5-Mile Beach, July 3, (Hm) (Sm); Lakehurst, July 13, (Hs); Newton, July 23, (C, Wat); Ramsey, July 28, (C).

389. **liparops strigosa** Harris. Locally, throughout state. July. One brood. Winters as egg. Egg laid singly on terminal twig. Swamp blueberry (*Vaccinium corymbosum*) (Wat), shadbush.

Jamesburg, July 4, (Ds) (Sm)—Old Bridge, Aug. 4, (Wat).

Lakehurst, July 7, 13, (Hs); Ramsey, July 16, (Ge); Greenwood Lake Glens, July 18, (C); 5-Mile Beach, July 17–26, (Hm) (Sm); Hewitt, June, larvæ (Wat).

Mitoura Scudder

401. **damon** Cramer. Green hair-streak. Locally, throughout state. May and July. Two broods, second partial. Winters as pupa. Egg laid singly at tip of blossoming twig. Occasionally common. Red cedar (*Juniperus virginiana*).

Pompton, April 24, (C, dP)—Westwood, May 20, (Mt) (Sm).

Almonessen, April 29, (Hg); Lakehurst, May 10, (Hs).

Form *æstiva smilacis* Boisduval & LeConte. Synonym *patersonia* Brehme, Paterson, type locality, July 25, (Br). Greenwood Lake Glens, July 18, (C, Wat); Paterson, July 27, (Gr) (Sm).

Incisalia Scudder

403. **augustus** Kirby. Throughout state. Open scrubby places. April–May. One brood. Winters as pupa. Larva flower feeder. Frequently abundant, Pine Barrens. Sheep laurel (*Kalmia angustifolia*), blueberry (*Vaccinium*).

Paterson, April 8, (Gr) (Sm)—Hemlock Falls, May 30, (Bz) (Sm).

Jamesburg, April 18, 24, May 8, 17, (C); Lakehurst, April 29, abundant (Hs); Westville, April 25, (Sk) (Sm); Lake-

wood, April 21, May 25, (C); Greenwood Lake Glens, May 3, 10, (C, Wat).

405. *irus* Godart. Locally, throughout state. April–May. One brood. Winters as pupa. Egg laid singly at base of flower stem. Not uncommon, Pine Barrens. Wild indigo (*Baptisia tinctoria*) (Wat), lupine (*Lupinus perennis*).

Spotswood, April 26, (C)—Greenwood Lake Glens, May 30, (C).

Kanaus Mt., May 4, (dP); Jamesburg, May 8, 17, 30, (C); Lakehurst, April 29, (Hs, Wat); Anglesea, May 1, (Lt) (Sm); Clementon, May 16, (Jn) (Sm).

407. *henrici* Grote & Robinson. Locally, Northern District. Open places with low vegetation. May. One brood. Rare. Huckleberry (*Gaylussacia resinosa*).

Greenwood Lake, tops of ridges, April 25, May 10, (C, Wat).

Note. The several records given in Smith's "List" for this species are omitted as doubtful through misidentification.

409. *polios* Cook & Watson. Pine Barrens. April–May. One brood. Winters as pupa. Eggs laid among and about terminal flower buds. Occasionally numerous. Bearberry (*Arctostaphylos uva-ursi*).

Lucaston, April 10, (Dke) (Sm)—Lakewood, May 25, (C).

Type locality, Lakewood, April 21, 27, (Wat); Milltown, April 22, (Gr) (Sm); Jamesburg, April 18, 24, (C, Wat); Outcalt, April 21, (C); Lakehurst, April 29, abundant (Hs).

Aberration *davisi* Watson & Comstock. Type locality Lakehurst, April 29, (Wat).

413. *niphon* Hübner. Pine Barrens. Open woods. April–May. One brood. Winters as pupa. Eggs laid singly on pine sprouts. Not common. Pitch-pine.

Lakewood, April 21, (C)—Camden, June 18, (Sk) (Sm).

Lakehurst, April 29, May 10, (Hs, Wat), May 2 (Bz); Westville, April 29, (Sk) (Sm); 5-Mile Beach, May 7,

(Hm) (Sm); Clementon, May 9, (Lt) (Sm); Jamesburg, May 15, 17, 30, (C).

Feniseca Grote

419. **tarquinius** Fabricius. The wanderer. Locally, throughout state. May–October. Three broods. Winters as pupa. Found as occasional individuals resting on a sun-lit leaf in open woods. Eggs laid singly on alder twigs near lice. Larva carnivorous, feeding on woolly alder louse (*Prociphilus tessellata* Fitch), sometimes numerous.

Andover, May 14, bred (C); Caldwell, May 26, (C); Hillside, May 30, July 15, (Ru); Newton, July 18, (C); Hewitt, July 19, (Hs); Waterloo, Aug. 16, (C); Ramsey, Aug., (Ge).

Lycaena Fabricius

424. **thöe** Guérin. Large copper. Locally, Northern District. Damp meadows. June–July and August–September. Two broods. Winters as egg. Eggs laid singly on underside of leaves and petioles and among seeds. Local and not numerous. Yellow dock (*Rumex crispus*).

Arlington, June 6, (Ru)—Carlstadt, Sept. 23, (C).

Troy Meadows, June 7, (C); Paterson, June 12, Aug. 3, (Gr) (Sm); Snake Hill, July 23, (C, Wat); Rutherford, July 29, (Se); Woodridge, Sept. 10, (Mt); Waverly, Sept. 19, (Wat).

434. **epixanthe** Boisduval & LeConte. Small copper. Pine Barrens in cranberry bogs. June–July. One brood. Winters as egg. Eggs laid singly mostly underneath leaf. Frequently numerous in cranberry bogs. Cranberry.

Brown's Mills Je., June 17, (Dke) (Sm)—Toms River, July 15, (Hl, Wat).

Lakewood, June 25, (C); Jamesburg, June 21, July 5, (C); Lakehurst, July 2, 14, (C); Mashipacong, July, (Hl, Wat).

435. **phlaeas hypophlaeas** Boisduval. Common copper. Throughout state. May–October. Three broods. Winters as pupa. Egg laid singly on stem or leaf. Usually common. Sorrel

(*Rumex acetosa*).

Almonessen, April 29, (Hg)—South Amboy, Oct. 4, (C).

Jamesburg, May 8, 17, 24, 30, June 30, July 4, Sept. 3, (C, Wat); Newton, July 6, 10, (C); Atlantic Highlands, Aug. 8, (Wat); Bowne, Aug. 21, Sept. 12 (C); Carlstadt, Sept. 18, (C).

This species is subject to considerable variation. Seven named aberrations have been captured in the state:—*fasciata* Strecker, *obliterata* Scudder, *fulliolus* Hulst, *octomaculata* Dean, *banksi* Watson & Comstock, *fulvus* Rummel, *neui* Rummel. In some restricted areas the tendency to aberration seems considerable, frequent individuals showing divergence from normal maculation or color but in most localities the normal form is predominant and the aberrations are very scarce.

Everes Hübner

447. *comyntas* Godart. Tailed blue. Throughout state. Open country. May–September. Three broods. Winters as full grown larva. Eggs laid singly in flower heads. Usually common. Flowers of bush clover (*Lespedeza*), tick trefoil (*Desmodium*), other legumes.

Almonessen, April 29, (Hg)—South Amboy, Oct. 4, (C).

Continuously on the wing throughout season with overlapping of broods.

Lyceanopsis Felder & Felder

475. *argiolus pseudargiolus* Boisduval & LeConte. Common blue. Throughout state. Open moist woods. April–September. Three broods. Winters as larva and pupa. Spring brood often very common in open woods, summer broods more scattered and less frequent. Eggs laid singly in flower buds. Larva myrmecophilous (C, Wat). Flower heads of many plants:—*Cornus florida*, *Viburnum acerifolium*, *Cimicifuga racemosa* and *Prunus serotina*.

Form *vernalis lucia* Kirby. Form *vernalis marginata* Edwards. These two spring-forms occur with *pseudargiolus* (synonym *violacea* Edwards). There are intergrades of every degree. Sometimes the heavily marked forms predominate.

Hemlock Falls, March 29, April 20, May 4, (C, Wat); Greenwood Lake Glens, April 25, May 3, (C); Lakewood, April 21, May 18, (Wat); Hope, May 5, (C).

Form *vernalis neglecta-major* Tutt. This form follows the early spring forms and is intermediate in occurrence between them and the first summer brood.

Hemlock Falls, May 24, (Wat); Jamesburg, May 30, (C).

Form *æstiva neglecta* Edwards.

Jamesburg, June 15, 20, July 4, Sept. 3, (C, Wat); Newton, July 5, 10, 18, (C); Newark, Aug. 11, 17, (C); Point Pleasant, Sept. 13, (C, Wat).

PAPILIONIDÆ

The Papilionidæ in New Jersey are represented by several species of the genus *Papilio* which may be divided into three groups: *Aristolochia* swallowtails of which *P. philenor* is the representative; Fluted swallowtails including *P. ajax asterius*, *P. chresphontes*, *P. glaucus*, *P. troilus* and *P. palamedes*; Kite swallowtails represented by *P. marcellus*. Three genera may be used to classify the three groups, respectively: *Troides* Hübner, *Papilio* Linnaeus and *Iphiclides* Hübner. See "A Revision of the American Papilios" by Hon. Walter Rothschild, Ph.D. and Karl Jordan, Ph.D. (Novitates Zoologicae, Vol. 13, 1906).

Papilio Linnaeus.

1. *philenor* Linnaeus. Green swallowtail. Throughout state. Open fields on flowers, open woods. May–October. Three broods. Winters as pupa. Sometimes common locally. Eggs laid in bunches on upper side of leaf or stem. Larvæ gregarious. Dutchman's pipe (*Aristolochia*), wild ginger (*Asarum canadense*).

Greenwood Lake Glens, May 18, (Wat)—Andover, Sept. 16, (C).

Hewitt, May 30, (C); Hemlock Falls, June 10, (C); Newton, July 23, (C, Wat); Ramsey, July 28, (C); Fort Lee, Aug. 23, (C); 5-Mile Beach, July, (Hm); Saddle River, July, (Ge).

4. *ajax asterius* Cramer. *P. ajax polyxenes* Fabricius is the Cuban subspecies. Parsley swallowtail. Throughout

state. Open country. April–October. Two broods. Winters as pupa. Eggs laid singly. Sometimes so abundant as to be injurious on parsley, carrots and celery. Hand picking is the safest control. *Umbelliferae* generally.

Pompton, April 24, (C, dP)—South Amboy, Oct. 4, (C).
On wing throughout season.

Note. Rothschild & Jordan record a transitional specimen (female) to **calverleyi** Grote from Passaic, N. J. (Novitates Zoologicae, Vol. 13, p. 547, 1906).

12. **cresphontes** Cramer. As *thoas* Linnaeus (Smith's "List"). Orange-dog, Giant swallowtail. Throughout state. Open country. June–July and August–September. Two broods. Winters as pupa. Occasional occurrence, but where prickly ash is common several may be seen in a day. Eggs laid singly, usually on upper side of leaves. Prickly ash (*Zanthoxylum americanum*), hop-tree (*Ptelea trifoliata*).

Greenwood Lake Glens, May 18, 30, (Wat); Awosting, May 21, (Hs); Newton, July 23, seven specimens (C, Wat); Paterson, Aug. 12, (Gr) (Sm). Records of 1937—Green Village, Aug. 12, 16, (Ru); Lake Lackawanna, Aug. 10, (Ru); Newton, Aug. 10, Sept. 6, (Ru); Newark, Aug. 28, (C).

15. **glaucus** Linnaeus. Tiger swallowtail. Throughout state. Open country. May–September. Two broods. Winters as pupa. Eggs laid singly on upper surface of leaf. Larva spins a web on top of leaf where it rests while not feeding. Wild cherry, tulip-tree, apple, ash and poplar.

Jockey Hollow Park, April 20, (dP)—Bowne, Sept. 16, (C). On the wing for five months.

Form female **turnus** Linnaeus. This yellow female is more common than the black one in the state. Intergrades occur.

20. **troilus** Linnaeus. Sassafras swallowtail. Throughout state. Open country. May–September. Two broods. Winters as pupa. Eggs laid singly on under surface of leaves. Larva on upper side of leaf which it rolls together and fastens for concealment. Sassafras, spice bush.

Hemlock Falls, May 4, (Wat)—Carlstadt, Sept. 18, (C).
On the wing for five months.

22. **marcellus** Cramer. As *ajax* (Smith's "List"). Zebra swallowtail. Occasionally throughout state. May–August. Two broods. Winters as pupa. Eggs laid singly on upper side of leaf. Papaw (*Asimina triloba*).

Hemlock Falls, June 30, (Br) (Sm); Newfoundland, July, (Ds) (Sm); Jersey City, July 3, 4, five specimens (Ws); Lakehurst, July 7, (Hs); Woodridge, Sept. 10, (Mt); Anglesea (W).

PIERIDÆ

Pieris Schranck

82. **protodice** Boisduval & LeConte. Checkered white. Generally south of and sparingly north of the Fall Line. In waste places. May–September. Two broods. Winters as pupa. Large broods frequently occur followed by years of scarcity. Eggs laid singly. Cruciferæ, especially wild peppergrass (*Lepidium virginicum*) (Wat).

Riverton, April 16, (Jn) (Sm)—Hillside, Oct. 30, (Ru).

Lakewood, April 26, (Wat); 5-Mile Beach, May, (Hm) (Sm); Newark Meadows, June 1, Sept. 10, (Ru); Jamesburg, July 4, (C); Ramsey, July 20, (Ge); Paterson, July 30, (Gr) (Sm); West Orange, Aug. 25, (C); Harrison, Sept. 25, (An); Mountain View, Oct. 5, (C). Spring form **vernalis** Edwards is of sparse occurrence.

84. **virginiensis** Edwards. Records of *oleracea* (Smith's "List") probably refer to this species. Occasionally throughout state. May–June. One brood. Winters as pupa. Toothwort (*Dentaria diphylla*).

Garrett Rock, April 30, male (Wat); May 6, female (Kr); Paterson, May 6, female (Gr) (Sm); Blairstown, June 2, male (Kl); Camden, (Cy) (Sm).

86. **rapæ** Linnaeus. Cabbage butterfly. Throughout state. Open country. March–November. Three broods. Winters as pupa. Eggs laid singly. Introduced from Europe, this species is often injurious to cabbage, cauliflower, and kale and occurs on Cruciferæ generally.

Newark, April 5, (C)—Stockton, Nov. 19, (C).

On the wing commonly throughout the season. In the spring specimens without spots are occasionally taken and called **immaculata** by various authors.

Anthocharis Boisduval

30. **midea** Hübner (*genutia* Fabricius). Orange-tip. Locally, throughout state. Open woods. April–May. One brood. Winters as pupa. Sometimes very common in Northern District. Eggs laid singly anywhere on plant. Rock cress (*Arabis lyrata* and *perfoliata*) (Wat), *Sisymbrium thaliana*, Westville (Hg).

Manumuskine, April 24, (Dke)—Awosting, May 27, (Hs).

Greenwood Lake Glens and Awosting, April 25, May 10, (C, Wat), May 22, 27, (Hs); Almonessen, April 29, (Hg); Little Falls, May 14, (Ds) (Sm); Old Bridge, April 26, (C); Pompton, May 1, (C, dP, Ru); Oakland, May 2, (Ge); 7-Mile Beach, May, (Hm).

Phœbis Hübner

57. **sennæ eubule** Linnaeus. Cloudless sulphur. Coastal area and occasionally inland. Open country. August–October. Eggs laid singly on young leaves. A strong flier with migrant habits. Senna (*Cassia*). Princeton, Stony Brook Valley, larvæ on *Cassia marylandica* (Ort).

West Creek, Chatsworth, Hammonton, Pleasant Mills, Camden, Whitings, Aug.–Sept., (St); Barnegat Pier, Aug. 7–Sept. 30, common (Br); 5-Mile Beach Sept. “swarms” (Hm); Cape May, Sept. 18, ’32, migration observed, 50 counted in one hour (Pk); Beach Haven, Sept. 3, (Frd); Sept. 27 (Br); Cape May Co. and northward, Spring Lake, Aug., Sept., (Ho); Manasquan, Spring Lake, Sept. 2, Point Pleasant, Sept. 17, (Wat); Newark, Sept. 12, 13, (Ang); Franklin Park, Sept. 14, (Ru); Great Piece Meadows, Sept. 2, (C); La Vallette, late Aug., common (Joe Scheuerle).

Colias Fabricius

41. **eurytheme** Boisduval. Alfalfa butterfly. Throughout state. Open country. May–October. Two or three broods. Winters as larva. Eggs laid singly on top of leaf. Of this species, Dr. Smith remarked, thirty years ago:—“hardly a regular inhabitant of the state.” Since, in the last fifteen years, this species has become almost as numerous as *philodice*. Alfalfa, clovers.

Lakehurst, May 10, (Hs), July 3, (Ru); Green Village, June 24, Aug. 12, Oct. 30, (Ru); Bowne, Aug. 31, Sept. 3, 16, Oct. 13, (C); Harrison, Sept. 25, Oct. 3, 13, (An); Belleville, Oct. 10, (C); Hillsdale, Oct. 20, (C).

Form *æstiva* **amphidusa** Boisduval is the common form. The spring form *eurytheme* is rare. Form female **alba** Strecker occurs.

42. **philodice** Godart. Clouded sulphur. Throughout state. Open country. May–October. Three broods. Winters as larva. Egg laid singly on upper side of leaf. Clover and other legumes.

Lakehurst, April 29, (Hs)—Fort Lee, Oct. 21, (C).

On the wing throughout the season.

Form *vernalis* **anthyale** Hübner is of frequent occurrence in early spring. Form female **alba** Strecker occurs throughout the season.

Eurema Hübner

67. **nicippe** Cramer. Locally, Coastal Plain. September–October. Eggs laid singly, usually on underside of leaf. Senna (*Cassia*).

Barnegat Pier, Aug. 7–Sept. 30, not common (Br); 5-Mile Beach, Sept.–Nov., (Hm); New Brunswick, Aug. 23, Sept. 22, (C, Wat); Point Pleasant, Sept. 13, (Wat); Elizabeth, Sept. 14, (Gr) (Sm); Hillside, Sept. 5, 16, (Ru); Waverley, Sept. 25, (C).

72. **lisa** Boisduval & LeConte. Little sulphur. Throughout state. Common in Coastal District, less numerous above Fall Line. On flowers and moist earth. June and August–September. Two broods. Eggs laid singly on upper side of midrib of *Cassia marylandica* and *nictitens*.

Jamesburg, May 30, (C)—Oct. 12, (C).

Occurrence is sparse until August and September when it is often common.

HESPERIIDÆ

Epargyreus Hübner

484. **tityrus** Fabricius. Silver-spotted skipper. Throughout state. May–September. Two broods. Winters as pupa.

Eggs laid singly. Larva makes a nest by spinning leaves together and makes a slight cocoon to pupate. Locust and other legumes.

Jamesburg, May 17, (C)—Dennisville, Sept. 5, (C, Wat).

On wing throughout season.

Achalarus Scudder

496. **lyciades** Geyer. Throughout state. Fields, meadows and wood roads. May–July. One brood. Sometimes locally abundant. Rests with open wings while feeding on flowers. Tick trefoil (*Desmodium paniculatum*) preferred (Wat) and bush clover (*Lespedeza*).

Arlington, May 18, (Ru)—Greenwood Lake Glens, July 18, (Wat).

Green Village, June 6, (C); Lake Hopatcong, June 15, (Wat); Plainfield, June 21, (Ru); 5-Mile Beach, June, July, (Hm).

Thorybes Scudder

503. **bathyllus** Abbot & Smith. Throughout state. May–September. One brood. Winters as full grown larva. Bush clover (*Lespedeza capitata*) preferred (Wat); other legumes.

Jamesburg, May 24, (C)—Dennisville, Sept. 7, (C, Wat).

Cranford, June 10, (Ru); Newton July 6, (C); 5-Mile Beach, May–Aug., (Hm).

505. **pylades** Scudder. Throughout state. Fields and open woods. June–July. One brood. Winters as a full grown larva. Eggs laid singly on under side of leaves. Larva makes a nest by cutting and folding leaves. Clover and other legumes.

Hemlock Falls, May 25, (Wat)—Lake Hopatcong, Aug. 10, (C).

Great Notch, May 25, June 6, (Ru); Palisade Park, June 7, (Hs); Green Village, June 13, 16, (C); Greenwood Lake Glens, June 25, (Wat); 5-Mile Beach, May–Aug., (Hm).

Pyrgus Hübner

515. **centaureæ** Rambur. Crystalline Highlands. April–May.

One brood. Life history unknown. Formerly numerous at Paterson and Great Notch.

Normanock, April 25, (C, dP, Wat); Paterson, April 25, May 14, (Gr) (Sm), May 11, (Wat); Westwood, April 30, May 19, (Mt) (Sm); Great Notch, May 2, 6, (Ru); May 15, (C); Montclair, May 5, (Beut); Hewitt, May 18, (Wat); Awosting, May, (Hs); Iona, April 30, (Sk) (Sm); Pompton, May 1-6, (C, dP, Ru).

521. **communis** Grote. Synonym *tessellata* Scudder. Piedmont Region and southward. Dry fields and road sides. August-September. One brood. Winters as larva. Sometimes locally abundant. *Sida spinosa* (Wat), *Malva rotundifolia*, *Abutilon abutilon*, *Hibiscus trionum*. Bowne, Sept. 12, 21. Eggs and larvae (C).

Lakehurst, May 10, (Hs)—Bowne, Oct. 12, (C).

Stockton, Aug. 8, (C); Bowne, Aug. 21, 31, Sept. 12, 16, (C); Fort Lee, Aug. 2, (C); Nutley, Aug.-Sept., (New); Dennisville, Sept. 5, (C, Wat); Lakehurst, Sept. 10, 11, (Ru); 5-Mile Beach, Aug.-Oct., (Hm); Cape May, Aug. 27, (Pk).

Pholisora Scudder

531. **catullus** Fabricius. Throughout state. Roads and waste places. May-September. Two broods. Winters as full grown larva, pupating in spring. Eggs laid singly. Larva forms a nest of leaves. Pigweed (*Chenopodium album*), *Amaranthus* (Wat).

Jamesburg, May 24, (C)—Woodridge, Sept. 10, (Mt).

Throughout season, generally common.

Erynnis Schranck

541. **icelus** Scudder & Burgess. Northern District. Open woods. May-June. One brood. Winters as full grown larva, pupating in spring. Eggs laid singly on upper surface of leaves. Larva makes a nest of leaves and lives within for winter quarters. Willow, poplar (Wat).

Orange Mountains, May 1, (Bz) (Sm)—Greenwood Lake Glens, June 26, (C, Wat).

Jamesburg, May 8, 17, 24, 30, (C); Hillsdale, May 10, (C); Lake Hopatcong, June 15, (Wat); Newton, July 23, larva (C, Wat); Ogdensburg, May 30, (Bl).

542. **brizo** Boisduval & LeConte. Throughout state. Open woods. April–June. One brood. Winters as full grown larva pupating in spring. Oak.

Jamesburg, April 18, (C)—Lake Hopatcong, June 15, (Wat).

South Orange Mountain, April 19, (Wf); Jamesburg, April 18, 24, May 8, 17, 24, 30, (C); Hope, May 5, (C); Hillsdale, May 10, (C); Lakehurst, May 22, (Wat); Pompton, May 1, (C, dP, Ru).

547. **lucilius** Scudder & Burgess. Northern District. May–August. Two broods. Larva makes a nest of leaves and when full grown so winters, pupating in spring. Egg laid singly on under surface of leaf. Wild columbine (*Aquilegia canadensis*).

Paterson, April 19, (Gr) (Sm)—Andover, Sept. 16 (C).

Great Notch, May 3, (Bl); Greenwood Lake Glens, May 9, June 25, (Wat); Ogdensburg, May 22, June 3, July 11, Aug. 25, (Bl); Newton, July 5, 18, 23, larvæ (C, Wat).

546. **persius** Scudder. Possibly throughout state. Open fields and roads. April–May. Believed to be single brooded (Dr. Wm. T. M. Forbes). Winters as full grown larva. Willows and poplars (Scudder).

Old Bridge, April 26, Jamesburg, May 17, 24, Runyon, May 19, 26, Lakewood, May 22–24, (C); Greenwood Lake Glens, May 5, (Bl).

- **baptisiæ** Forbes. Possibly throughout state. May–August. Two broods. Winters as full grown larva. Wild indigo (*Baptisia tinctoria*) (Wat).

Greenwood Lake Glens, May 31, Fort Lee, Aug. 2, Waterloo, Aug. 5, Lake Hopatcong, Aug. 12, Hemlock Falls, Aug. 17, (C).

Note. For *E. lucilius*, *persius*, and *baptisiæ* see “The Persius Group of Thanaos” by William T. M. Forbes. Psyche, Vol. XLIII, No. 4, pp. 104–113 (1936). The

records given for the above three species were carefully verified.

550. **martialis** Scudder. Northern District. Fields and wood roads. May–June and July–August. Two broods. New Jersey tea (*Ceanothus americanus*).

Great Notch, April 27, (Bl)—Woodbury, Sept. 5, (Sk) (Sm).

Laurel Springs, April 29, (Hy) (Sm); Ogdensburg, May 22, 31, June 3, July 13, Aug. 11, 21, (Bl); Hemlock Falls, May 25, 31, June 8, (C, Wat); Greenwood Lake Glens, May 30, June 22, 25, (C, Wat); Jamesburg, June 15, (C); Newton, July 23, (C, Wat); Waterloo, Aug. 5, (C).

551. **juvenalis** Fabricius. Throughout state. Wood roads, oak scrub. May–July. Two broods. Winters as full grown larva. Eggs laid singly. Oaks, less commonly legumes (Wat).

Jamesburg, April 18, (C)—Newton, July 23, (C, Wat).

Jamesburg, April 24, May 8, 17, 24, 30, June 15, (C), July 17, (Pk); Lakewood, April 21, (C); Greenwood Lake Glens, May 3, 9, 30, (C); Bear Lake, Ramapo Mountains, May 3, (C).

554. **horatius** Scudder & Burgess. As *petronius* Lintner (Smith's "List"). Throughout state. Open fields. May–August. Two broods. Oaks, less commonly legumes.

Orange Mountains, April 25, (Ru)—Belleville, Aug. 18, (C).

Old Bridge, April 26, (C), Aug. 4, (Wat); Pompton, May 1, (C); South Lakewood, July 12, (Wat); Jamesburg, July 17, (Pk); Ramsey, July 28, (C); Waterloo, Aug. 5, (C).

Ancyloxypha Felder

567. **numitor** Fabricius. Throughout state. Rich grassy fields. May–September. Three broods. Winters as larva. Eggs laid singly. Larva forms nest of a grass blade. Grasses.

Jamesburg, May 30, (C)—Carlstadt, Sept. 18, (C).

Jamesburg, June 15, 20, 30, (C); Newton, July 6, 23, (C, Wat); Ramsey, July 28, (C); Old Bridge, Aug. 4, (Wat);

Bowne, Aug. 19, (C); Dennisville, Sept. 6, (C, Wat); 5-Mile Beach, May–Sept., (Hm).

Hesperia Fabricius

581. **metea** Scudder. Throughout state. May–June. One brood. Grasses.

Hemlock Falls, May 6, (C)—Lake Hopatcong, June 15, (Wat).

Jamesburg, May 8, 17, (C); Lakehurst, May 10, (Hs), May 20–27, (Ds) (Sm); Clementon, May 10, (Kp), May 15, (Lt); Millburn, May 4, 20, 28, (Ru).

591. **leonardus** Harris. Throughout state. Dry locations, on flowers. August–September. One brood. Winters as a small larva. Eggs laid singly. Grasses, *Agrostis*.

Fort Lee, Aug. 23, (C)—Point Pleasant, Sept. 17, (C, Wat).

Jamesburg, Aug. 25, (C, Wat); Lakehurst, Aug. 30, Sept. 2, (Ru); Atco, Sept. 5, (Lt); Dennisville, Sept. 5, (C, Wat); Hillsdale, Sept. 9, (C).

595. **attalus** Edwards. Pine Barrens. Swamps. July–August. One brood.

Lakehurst, June 24, 30, Aug. 14, 29, (Ru), July 22–Aug. 5, (Wf), July 10, 17, (Bz) (Sm); South Lakewood, July 12, (C, Wat); Da Costa, July 19, (W) (Sm); Clementon, Aug. 3, (Fox) (Sm).

598. **sassacus** Harris. Northern District. Meadows and fields. May–June. One brood. Winters probably as pupa (Scudder). Eggs laid singly on any low plant in grass. Grasses, *Panicum*.

Newfoundland, May 29, (Ds) (Sm); Greenwood Lake Glens, May 31, June 16, 22, 26, (C, Wat); Cranford, June 9, (Ru); Palisade Park, June 7, (Hs); Alpine, June 16, (C).

Hylephila Billberg

601. **phylæus** Drury. Throughout state. Meadows and grassy places. July–September. One brood.

Englewood, July 21, (Wat); Arlington, Aug. 18, (C); 5-Mile Beach, Aug. 20, (Hm) (Sm); Lakehurst, Aug. 26,

(Ru); Lake Hoptacong, Aug. 29, (Ds) (Sm); Dennisville, Sept. 7, (C, Wat); Bowne, Sept. 12, (C).

Atalopedes Scudder

602. **campestris** Boisduval. Probably from Fall Line southward. August–September. One brood. Bermuda grass (*Cynodon dactylon*).

5-Mile Beach, July 26, Sept. 20, (Hm) (Sm); Cranford, Aug. 1, (Bz); New Brunswick, Sept. 23, (Wat); Cape May, Sept. (Sk) (Sm); Camden, Aug., Sept., (Cy).

Polites Scudder

609. **verna** Edwards. Throughout state. Damp, open fields. June–August. One brood.

Elizabeth, June 20, (Bz) (Sm)—Jamesburg, Aug. 25, (C).

Runyon, July 2, Aug. 4, (C); Greenwood Lake Glens, June 22, 25, (Wat), July 18, (C); Lakehurst, July 11, (Hs); 5-Mile Beach, June 23, Aug. 12, (Hm) (Sm).

610. **manataaqua** Harris. Throughout state. Fields and moist meadows. June–July. One brood.

Elizabeth, June 20, (Bz) (Sm)—Cape May, Sept. 18, (Pk).

Greenwood Lake Glens, June 22, 25, (Wat), July 18, (C, Hs); Jamesburg, June 30, (C), July 2, (Pk), July 4, Aug. 25, (Wat); Lakehurst, July 7, (Hs); Ogdensburg, July 9, (Bl); Ramsey, July 10, (Wat); West Cape May, July 16, (Wat); Dennisville, Sept. 5, (C, Wat).

611. **themistocles** Latreille. Synonym *cernes* Boisduval & LeConte. Throughout state. Open country. June–September. Two broods. Winters as pupa. Eggs laid singly. Larva makes a nest and a slight cocoon for pupa. Grasses (*Panicum*).

Hemlock Falls, June 8, (C)—Bowne, Sept. 12, (C). On the wing in June and again in August and in September usually plentiful.

614. **peckius** Kirby. Throughout state. Open country. May–June and August–September. Two broods. Winters as full grown larva and pupa. Eggs laid singly. Grasses.

Jamesburg, May 30, (C)—Point Pleasant, Sept. 17, (C, Wat). On the wing in May and June and again through August and September, usually common. There are a few July records.

618. **mystic** Scudder. Northern District. In moist locations. June–July. One brood. Winters as larva. Eggs laid singly. Larva makes tubular nest of grass blades. Grasses.

Cranford, June 7, 9, 20, (Ru); Green Village, June 9, (Ru); Lake Hopatcong, June 15, (Wat); Greenwood Lake Glens, June 16, 22, 25, (C, Wat); Newton, July 5, (C); Ramsey, July 21, (Ge).

Catia Godman

621. **otho egeremet** Scudder. Throughout state. Open fields. June–August. One brood. Winters as larva. Grasses (*Panicum*).

5-Mile Beach, June 3, Aug. 27, (Hm) (Sm); Jamesburg, June 21, July 4, Aug. 25, 29, (C, Wat); Newton, July 6, 11, 23, (C, Wat); Greenwood Lake Glens, June 23, July 18, (C); Ramsey, July 28, (C).

Note. *otho otho* Abbot & Smith occurs in the south.

Poanes Scudder

622. **viator** Edwards. Locally, throughout state. Marshy land. July–August. One brood. Occasionally numerous in salt meadows. Grasses.

Arlington, July 19, Kearny, July 19, (Ru); Snake Hill, July 11, Aug. 2, (C, Wat); Anglesea, July 25, (Hm); Atlantic City (Aa).

623. **massasoit** Scudder. Locally, throughout state. Fresh water swamps. July–August. One brood. At times common. Grasses.

Westville, July 3–10, (Sk) (Lt) (Sm)—Westwood, Aug. 7, (Mt) (Sm).

Jamesburg, July 5, (C); Englewood, July 13, 21, (C); Helmetta, July 27, (Hs); Ramsey, July 28, (C); Green Village, July 2–22, (Ru).

Form **suffusa** Laurent. Type locality, Westville, July 4,

(Lt). Of fairly frequent occurrence there and at Malaga, July 17, (Hl, Wat).

624. **hobomok** Harris. Northern District. Edges of woods, fields and meadows. May–July. One brood. Winters as egg, larva and pupa (Lt). Grasses.

Paterson, May 11, (Gr) (Sm)—Westwood, July 5, (Mt) (Sm).

Hemlock Falls, May 24, (C); Greenwood Lake Glens, May 31, June 16, 22, 25, (C, Wat); Jamesburg, May 31, June 1, 20, (C); Palisade Park, June 7, (Hs).

Form female **pocahontas** Scudder flies with typical form.

625. **zabulon** Boisduval & LeConte. Locally, throughout state. Open woods and fields. May–September. Two broods. Grasses.

Belleville, May 23, (C)—Hillsdale, Sept. 9, (C).

Jamesburg, May 30, June 15, (C), Aug. 25, Sept. 3, (Wat); Cape May, May 30, (Sk) (Sm); Manasquan, July 24, (C); New Brunswick, Aug. 19, (Hs); 5-Mile Beach, June 19, Aug. 21, (Hm) (Sm); Newark, Aug. 28, (C); Hillside, Sept. 5, (Ru).

628. **aaroni** Skinner. Coastal District. Salt marshes. June–September. Two broods. Grasses.

Cape May, type locality (Sk), June 14, (Sk), Sept. (St, Pk); Anglesea, June 12, (Lt); 5-Mile Beach, June 15, Aug. 22–27, common in salt meadows (Hm); Dennisville, Sept. 7, (C, Wat); Tuckerton (Ds).

Atrytone Scudder.

634. **arogos** Boisduval & LeConte. Pine Barrens. Swamps. July–August. One brood.

Brown's Mills Je., July 21, (Dke) (Sm); Brookville, July, (Ds) (Sm); Lakehurst, June 29, (Ru), Aug. 30, (Ds) (Sm).

635. **logan** Edwards. Dr. Smith lists *vitellius* Fabricius, a West Indian species. His records refer to this species. Throughout state. Damp fields. One brood. July. Grasses.

Lakehurst, June 29, (Ru), July 7, (Hs); Jamesburg, July 4, (C, Wat), July 30, (Ds) (Sm); Ramsey, July 10, (Ge); Westville, July 10, (Lt) (Sm); Lakewood, July 12,

(C); Stockholm, July 8, (Bl); Ogdensburg, July 11, 13, (Bl); Hewitt, July 19, (Hs).

638. **dion** Edwards. Pine Barrens, Appalachian Valley. July–September. Grasses.

Great Meadows, June 30, July 4, (dP); Anglesea, July 7, (Hm); Stockholm, July 8, (Bl); Lakehurst, July 22, Aug. 5, (Bz, Wf), July 19, (Hs), July 29, (Ds) (Sm); Jamesburg, Aug. 24, 31, Sept. 3, (Wat); Brown's Mills Jc., Sept. 15, (Dke) (Sm).

640. **conspicua** Edwards. Synonym *pontiac* Edwards. Throughout state. Damp meadows. June–August. One brood. Grasses.

Green Village, June 20, July 14, (Ru); Jamesburg, July 4, (Lt) (Sm); Westville, July 4, (Sk) (Sm); Westwood, July 4, 28, (Mt) (Sm); Newton, July 6, (C); Englewood, July 7, 13, (C); Lakewood, July 13, (C, Wat); Malaga, July 17, (Hl, Wat); Ramsey, July 24, (Ge); Old Bridge, Aug. 4, (Wat).

641. **bimacula** Grote & Robinson. Pine Barrens, Appalachian Valley. Swampy spots. June–July. One brood. Grasses.

Greenwood Lake Glens, June 16, 22, (C, Wat); Lakehurst, June 22, (Ru), June 24, (Wf), June 27, (Ds), July 7, 11, (Hs); Oak Ridge, June 26, July 3, (Sh) (Sm); Mashipacong, July 3–5, (Hl, Wat); Ogdensburg, July 7, (Bl); Stockholm, July 8, (Bl).

642. **vestris** Boisduval. Synonym *metacomet* Harris. Throughout state. July. One brood. Grasses.

Runyon, July 2, (C); Jamesburg, July 4, (C); Newton, July 10, 18, 23, (C, Wat); Green Village, July 15, (C); Newark, July 25, (C); Greenwood Lake Glens, July 18, (C); Ramsey, July 26, (Ge); 5-Mile Beach, July 27, (Hm).

Atrytonopsis Godman

644. **hianna** Scudder. Pine Barrens. May–June. One brood. Grasses.

South Lakewood, May 20, (Wat); Brown's Mills Jc., May 27, (Dke) (Sm); Iona (Dke) (Sm).

Amblyscirtes Scudder

660. **vialis** Edwards. Throughout state. Moist roadsides. May-June. One brood in New England but in south two broods (Scudder). A single brood probably in New Jersey. Grasses.

Clementon, May 15, (Hg); Lakehurst, May 20, June 4, (Ds) (Sm); Lakewood, May 22-25, (C, Wat); Jamesburg, May 24, (C); Newfoundland, May 29, (Ds) (Sm); Ogdensburg, May 30, (Bl).

661. **hegon** Scudder. Synonym *samoset* Scudder. May-June. Ogdensburg, May 31, (Bl); Green Village, June 8, (Ru).

Lerodea Scudder

671. **fusca** Grote & Robinson. Coastal Plain and a little above the Fall Line. Moist meadows. June-July and August-September. Two broods. Grasses.

5-Mile Beach, June 9, (Hm); Green Village, June 13, 16, (C), Aug. 19, (Ru); Jamesburg, June 15, 20, (C), June 22, (Ds) (Sm), July 4, (Sk) (Sm), Aug. 25, 29, Sept. 3, (Wat); Camden, June 18, (Sk) (Sm); Cape May Court House, July 17, (Hl, Wat); Ramsey, Aug., (Ge); Manasquan, Aug. 24, (C); Tuckerton, Sept. 2, (Ds) (Sm).

Prenes Scudder

680. **panoquin** Scudder. Coastal District. Salt marshes. June-September. Two broods.

Atlantic City, June 25-July 1, (Aa); 5-Mile Beach, June-Sept., common in salt meadows (Hm); Palermo, July 17, (Hl, Wat); Dennisville, Sept. 7, (C, Wat).

683. **ocola** Edwards

Bowne, Aug. 21, Sept. 12, '37, (C); Lakehurst, Aug. 24, '22, (Ru); Camden, Sept., common 1899 (Cy) (Sm); Salem (Aa) (Sm); Atlantic City (Aa).

Supplemental List

Included here are species of which sixteen have been captured in the state of New Jersey and three on Staten Island or Long Island. Of these fifteen species are of regular occurrence south of New Jersey. The records of these are given and under favor-

able circumstances more records of their occurrence may be expected but none of these species can now be regarded as a regular inhabitant of the state.

Phyciodes Hübner

266. **batesii** Reakirt. One brood. Wavy-leaf aster (*Aster undulatus*). The only record is from Gloucester in the original description in 1865. The species is of regular occurrence in western Pennsylvania and central New York State.

Basilarchia Scudder

321. **arthemis** Drury. White admiral. And form **proserpina** Edwards. In the last edition of Smith's "List" these were recorded. This is a northern species, frequent in the Catskill region of New York state and northward. It is believed to be out of range, even in the northwestern part of New Jersey. The reported captures are believed to be referable to *B. astyanax albofasciata* Newcomb. The recorded food plants of *arthemis* are black and yellow birch, basswood and willow. Two broods. Winters as larva.

Megisto Hübner

101. **mitchellii** French. Dover, Charles W. Johnson, July 10, 1890 (Sm). Identified by Dr. Henry Skinner. Woodport.
102. **sosybius** Fabricius. Southern New Jersey. Grasses. Mount Holly (Aa) (Sm). The species is abundant in the southern states.

Atlides Hübner

356. **halesus** Cramer. Occasional visitor, southern species. Mistletoe. Cape May, Gloucester, Westville (Aa) (Sm).

Strymon Hübner

365. **cecrops** Fabricius. Occasional visitor, southern species. Manasquan, June 29, one male (Br) (Sm); East Marion L. I., N. Y., Aug. 14, two specimens (La).
374. **favonius** Abbot & Smith. Occasional visitor, southern species. Anglesea, Sept. 1, two specimens (Hm) (Sm).

376. *autolycus ontario* Edwards. Newark, bred from larva found on oak, May 29, emerged June 13, 1892 (Doll collection). This is a very scarce form of which there are about a score of records during a half century. These records extend from Missouri to Massachusetts and Canada.

Erora Scudder

418. *laeta* Edwards. Atlantic City, July 1, (Aa). Two broods. This species is apparently rare but extends over a very wide range occurring abundantly in Arizona, and recorded scatteringly in Pennsylvania, New York, New England states and eastern Canada.

Papilio Linnaeus

21. *palamedes* Drury. Rare visitor from south. Red bay (*Persea borbonia*). West Hoboken, July 8, 1908 (Ws?); Delaware, Aug. 20, 1934, (Sto); Fort Wadsworth, S. I., N. Y., June 18, (Bu).

Appias Hübner

78. *ilaire* Godart. Southern species. Canarsie, L. I., N. Y., June 10, 1906, two specimens (My) (det. Wat).

Phœbis Hübner

58. *philea* Linnaeus. Southern species. Asbury Park, Sept. 9, (Eng); Riverside Park, New York City, Oct. 13, (Eng).
60. *agarithe* Boisduval. Southern species. Beach Haven, Sept. 3, male (Frd).

Zerene Hübner

55. *caesonia* Stoll. Dog-faced butterfly. Southern species. Eggs laid on under side of end leaves. False indigo (*Amorpha fruticosa*), also reported on clover. Flushing, L. I., N. Y., July 12, (Bl); Staten Island, N. Y., June, July, 1896 (Ds) (Sm).

Goniurus Hübner

486. *proteus* Linnaeus. Coastal District. August–September. Very rare as far north as New Jersey. Injurious to beans

in the southern states. Legumes. 5-Mile Beach, (Hg) (Sm); Cape May (Aa) (Sm).

Cecropterus Herrick-Schaeffer

500. **cellus** Boisduval & LeConte. Southern species. Hog peanut (*Amphicarpa pitcheri*), *Breweria aquatica*. Newark (Sm).

Polites Scudder

619. **brettus** Boisduval & LeConte. Southern species. August-September. Camden, 1 female, Aug. 10, 2 males, Sept. 7, (Cy) (Sm).

Oligoria Scudder

652. **maculata** Edwards. Southern species. Camden, 1 male, 1 female, July 15, (Cy) (Sm).

Lerema Scudder

653. **accius** Abbot & Smith. Southern species. Grasses. Salem (Aa) (Sm); Atlantic City, July, (Aa).

Calpodes Hübner

677. **ethlius** Cramer. Canna skipper. Southern species. No record in state but taken at several places on Long Island in 1911. Occasionally destructive to canna. Yaphank, L. I., May 27, (Fr); Floral Park, L. I., larva, Sept., Oct., (Eng).